

IN THE CLAIMS:

1. (Currently Amended) A process for machining and/or joining workpieces in the manufacture of body shells, the process comprising the steps of:

conveying the workpieces using a conveyor along a transfer line ~~and~~;

5 machining and/or performing joining operations on the workpieces using a plurality of stationarily arranged, multiaxial robots wherein the workpieces are conveyed continuously and ~~machined~~ machining and/or joining operations are carried out by the robots during the forward movement of the workpieces;

synchronizing the movements of the robots along the axes with the conveying movement; and

10 detecting the movement and the position of the workpieces with a sensor system with the detection being reported to a control system; ~~which controls~~;

controlling the conveyors and the robots with the control system.

2. (Currently Amended) A machining plant and/or joining plant, for the manufacture of body shells, the plant comprising:

a conveyor for the workpieces;

5 a plurality of multiaxial robots arranged stationarily along the transfer line, wherein the conveyor is designed as a continuously operating conveyor and the movements of the robots along axes of the robots can be synchronized with the conveying movement for machining the moving workpieces;

a sensor system for detecting the movement and the position of the workpieces; and

a control system, to which the conveyors, the sensor system and the robots are connected, said control system controlling the robots relative to the continuously operating conveyor so workpieces are conveyed continuously such that machining operations and/or joining operations are performed by the robots during the forward movement of the workpieces on the continuously operating conveyor section with the control system synchronizing the movements of the robots along the axes with the conveying movement of the workpieces.

3. (Previously Presented) A machining plant in accordance with claim 2, wherein the machining plant has a monitoring system for the synchronization of the movements of the robot.

4. (Previously Presented) A machining plant in accordance with claim 3, wherein the monitoring system has one or more means for optical imaging and evaluation.

5. (Previously Presented) A machining plant in accordance with claim 2, wherein the monitoring system is connected to the control system.

6. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the robot controls have dynamized machining programs that can be synchronized on-line with the movement of the conveyor.

7. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the robots are designed as multiaxial articulated arm robots, preferably as six-axis industrial robots.

8. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the robots are arranged stationarily and on one side or on both sides of the transfer line.

9. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the robots are arranged at equally spaced locations.

10. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the conveyor has a plurality of said conveying sections with independent drives connected to the control system.

11. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the tools are arranged and clamped on carriers.

12. (Currently Amended) A machining plant in accordance with claim [[1]] 2, wherein the robots carry ~~said joining tools, especially~~ welding tools.

13. (Currently Amended) A machining plant in accordance with claim [[1]] 2, further

comprising an input with ~~wherein the machining plant has~~ a loading, clamping and checking station ~~at the input.~~

14. (Currently Amended) A machining plant in accordance with claim [[1]] 2, further comprising an output with ~~wherein the machining plant has~~ a checking and unloading station ~~at the output.~~

15. (Currently Amended) A joining plant, for the manufacture of vehicle body shells, the plant comprising:

a plurality of multiaxial industrial robots for machining and/or joining operations;

a conveyor means for conveying the workpieces along a transfer line along which said
5 robots are positioned with each of said robots being at a stationary position and having a working area, with the conveyor means having a continuously operating conveying section, ~~said conveyor means being synchronized with movements of said robots for machining the moving workpieces;~~

a sensor system for detecting the movement and the position of the workpieces; and

10 a control system controlling the continuously operating conveyor so workpieces are conveyed continuously and controlling ~~with~~ movements of said robots such that machining operations and/or joining operations are performed by the robots during the forward movement of the workpieces on the continuously operating conveyor section with the control system synchronizing the movements of the robots along the axes with the conveying movement of

the workpieces, said control system being connected to the conveyor means, to said sensor system and to said robots.

16. (Previously Presented) A machining plant in accordance with claim 15, further comprising a monitoring system for the synchronization of the movements of said robot, said monitoring system being connected to said control system .

17. (Previously Presented) A machining plant in accordance with claim 16, wherein the monitoring system has one or more optical imaging and evaluation means for optically imaging and evaluating the operation of said robots and said conveyor means.

18. (Currently Amended) A machining plant in accordance with claim 17, ~~further comprising~~ wherein said control system includes a robot control with dynamized machining programs that can be synchronized on-line with the movement of the conveyor, each of said robots being associated with said robot control.

19. (Previously Presented) A machining plant in accordance with claim 18, wherein said robots are six-axis industrial robots arranged stationarily and on one side or on both sides of the transfer line arranged at equally spaced locations.

20. (Previously Presented) A machining plant in accordance with claim 19, wherein

said conveyor means includes a plurality of said conveying sections with independent drives connected to the control system wherein tools are arranged and clamped on pallet carriers with said robots carrying welding tools.